

RECEIVED OCTOBER 24, 2007

0076615

Fluor Hanford  
WSCF Analytical Lab  
P.O. Box 1000  
Richland, WA 99352  
Telephone 373-7495  
Telefax 372-0456

**FLUOR**

**Memorandum**

M4W41-SLF-07-750

To: H. Hampt E6-35 Date: October 18, 2007

From: S. L. Fitzgerald, Manager WSCF Analytical Lab *HF*

cc: w/Attachments  
T. F. Dale S3-30 S. J. Trent E6-35  
H. K. Meznarich S3-30 D. D. Wright S3-30  
P. D. Mix S3-30 File/LB  
J. E. Trechter S3-30

Subject: FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20071596 – SAF NUMBER F07-058

Reference: (1) Groundwater Protection Program-Letter of Instruction, FH-EIS-2003-MEM-001, October 31, 2002  
(2) HNF-SD-CD-QAPP-017, Rev. 8, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains the following information for sample delivery group WSCF20071596:

- Cover Sheet (Attachment 1)
- Narrative (Attachment 2)
- Analytical Results (Attachment 3)
- Sample Receipt Information (Attachment 4)

SLF/grf

Attachments 4

**RECEIVED**  
MAR 28 2008  
**EDMC**

**M4W41-SLF-07-750**

**ATTACHMENT 1**

**COVER SHEET**

**Consisting of 2 pages  
Including cover page**

## WSCF SAF NUMBER CROSS REFERENCE

Group#:	WSCF20071596		
Data Deliverable Date:	18-oct-2007		
Data Deliverable:	Cover Sheet		
SAF#	Sample ID	WSCF#	Matrix
F07-058	B1PLH0	W07GR02361	WATER

**M4W41-SLF-07-750**

**ATTACHMENT 2**

**NARRATIVE**

**Consisting of 4 pages  
Including cover page**

<b>Sample Delivery Group</b>	<b>WSCF20071596</b>
<b>Sample Matrix</b>	<b>Water</b>
<b>Data Deliverable</b>	<b>Summary Report</b>

### Introduction

One groundwater sample was received at the WSCF Laboratory on September 6, 2007. Sample was analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

The narrative (Attachment 2) will address sample characteristics, analyses requested and general information in performance of the analytical methods. A Data Summary Report (Attachment 3) includes analytical results, a comment report detailing method abnormalities, tentatively identified peaks if applicable, method references, and Laboratory QC information as applicable. Copies of the chain of custody and sample receipt documentation are included as Attachment 4.

It should be noted that the attached chain of custody was stamped “iced” and initialed by the WSCF Laboratory Sample Custodian during sample receiving, indicating the presence of ice in the sample container.

### Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report*, pages 13 through 15, for a complete listing of approved analytical methods.

### Inorganic Comments

**Anions** – Hold time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See pages 18 through 19 for QC details. Analytical Note(s):

- Duplicate, Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1NF30 (SDG# 20071595, SAF# F07-045).
- Sample results are D flagged if dilution(s) are required.
- Sample results that were less than the reportable limit, however greater than the method detection limit, were B flagged.

All QC controls are within the established limits.

**Cyanide** – The hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See page 20 for QC details.

All QC controls are within the established limits.

**Hexavalent Chromium** – The hold time requirement for this analysis was met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See page 21 for QC details.

All QC controls are within the established limits.

**ICP-MS Metals** – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See pages 22 through 24 for QC details.

All QC controls are within the established limits.

**Organic Comments**

**PCB** – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See pages 30 through 31 for QC details.

All QC controls are within the established limits.

**Semi-VOA** – The hold time requirements for this analysis were met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spike Duplicate were analyzed with this delivery group per the GPP Letter of Instruction. See pages 32 through 37 for QC details. Analytical Note(s):

- 2-Chlorophenol – Matrix Spike Duplicate was less than established laboratory limits. Additionally, the Spike Relative Percent Difference (RPD) exceeded established laboratory limits.
- 2-Fluorophenol (Surrogate) – Spike RPD exceeded established laboratory limits.

All other QC controls are within the established limits.

**TPHD-WA** – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank, Laboratory Control Sample and a Laboratory Control Sample Duplicate were analyzed with this delivery group. See page 38 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1PDT5 (SDG# 20071601).

All QC controls are within the established limits.

**TPHG-WA** – The hold time requirement for this analysis was met. A Duplicate, Matrix Spike, Blank, Laboratory Control Sample and Laboratory Control Sample Duplicate were analyzed with this delivery group. See page 39 for QC details.

All QC controls are within the established limits.

**Radiochemistry Comments**

**Rad Chem** – There are no hold times associated with WSCF's radiochemical methods. A Duplicate, Matrix Spike, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 44 through 51 for QC details. Analytical Note(s):

- Gross Alpha – Duplicate Relative Percent Difference (RPD) exceeded established laboratory limits.
- Gamma Energy Analysis – Duplicate was analyzed on sample# B1P108 (SDG# 20071593, SAF# F07-052).
- Americium-243 (tracer) – Laboratory Control Sample recovery exceeded established laboratory limits.
- Strontium-85 (tracer) and 89,90 – Duplicates were analyzed on sample# B1P108 (SDG# 20071593, SAF# F07-052).
- Technetium-99 – Duplicate was analyzed on sample# B1N8B4 (SDG# 20071537, SAF# F07-035) and the Matrix Spike was analyzed on sample# B1PK09 (SDG#20071542, SAF# F07-006).
- Uranium-235 – Duplicate RDP exceeded established laboratory limits.

All other QC controls are within the established limits.

I certify that this data package is in compliance with the LOI, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Analytical Manager and Client Services as verified by the following signatures.



Scot L. Fitzgerald  
WSCF Analytical Laboratory Manager



Pauline D. Mix  
WSCF Client Services

**Abbreviations**

Hg – mercury  
IC – ion chromatography  
ICP – inductively coupled plasma  
ICP/AES – ICP/atomic emission spectroscopy  
ICP/MS – ICP/mass spectrometry  
Total U – total uranium  
AT/TB – total alpha/total beta  
AEA – Alpha Energy Analysis  
WTPH-G – Total Hydrocarbons-Gasoline

Am – americium  
Cm - curium  
Pu – plutonium  
Np – neptunium  
GEA – gamma energy analysis  
H3 – Tritium  
Sr – Strontium 89, 90  
WTPH-D – Total Hydrocarbons-Diesel  
TSS – Total Suspended Solids

**M4W41-SLF-07-750**

**ATTACHMENT 3**

**ANALYTICAL RESULTS**

Consisting of 45 pages  
Including cover page

**WSCF**  
**ANALYTICAL RESULTS REPORT**

for

**Groundwater Remediation Program**

**Richland, WA 99354**

**Attention: Steve Trent**

Analytical: S. Fitzgerald 10/18/07

Client Services: G.W. P.D. M., 10/17/2007

*All results are reported on an "as received" basis unless otherwise noted in the comment section.*

This information is intended for the use of the addressee only. If the reader of this report is not the intended recipient or is not authorized by the recipient to receive the report, you are hereby notified that any dissemination, distribution or copying of this report is strictly prohibited. If you have received this report in error, please notify WSCF Laboratory immediately by telephone at (509) 373-7020 or (509) 531-8004. Information designation of this report is the responsibility of the customer.

Contract#: FH-EIS-2003-MEM-001

Report#: WSCF20071596

Report Date: 16-oct-2007

Report WGPP/ver. 5.2

Groundwater Remediation Program

Page 1

Department: Inorganic

## W13q Worklist/Batch/QC Report for Group# WSCF20071596

WL#	S#	Batch	QC#	Tray	Type	Sample#	Test
33222	2	33626	37714	BLANK			Anions by Ion Chromatography
33222	12	33626	37714	BLANK			Anions by Ion Chromatography
33222	3	33626	37714	LCS			Anions by Ion Chromatography
33222	5	33626	37714	DUP		W07GR02360	Anions by Ion Chromatography
33222	6	33626	37714	MS		W07GR02360	Anions by Ion Chromatography
33222	7	33626	37714	MSD		W07GR02360	Anions by Ion Chromatography
33222	7	33626	37714	SPK-RPD		W07GR02360	Anions by Ion Chromatography
33222	8	33626	37714	SAMPLE		W07GR02361	Anions by Ion Chromatography
33268	2	33672	37753	BLANK			Hexavalent chromium
33268	8	33672	37753	BLANK			Hexavalent chromium
33268	3	33672	37753	LCS			Hexavalent chromium
33268	5	33672	37753	DUP		W07GR02361	Hexavalent chromium
33268	6	33672	37753	MS		W07GR02361	Hexavalent chromium
33268	7	33672	37753	MSD		W07GR02361	Hexavalent chromium
33268	4	33672	37753	SAMPLE		W07GR02361	Hexavalent chromium
33268	7	33672	37753	SPK-RPD		W07GR02361	Hexavalent chromium
33388	1	33790	37878	BLANK			ICP-200.8 MS All possible meta
33388	2	33790	37878	LCS			ICP-200.8 MS All possible meta
33388	4	33790	37878	MS		W07GR02361	ICP-200.8 MS All possible meta
33388	5	33790	37878	MSD		W07GR02361	ICP-200.8 MS All possible meta
33388	3	33790	37878	SAMPLE		W07GR02361	ICP-200.8 MS All possible meta
33388	5	33790	37878	SPK-RPD		W07GR02361	ICP-200.8 MS All possible meta
33411	1	33812	37938	BLANK			Cyanide by Midi/Spectrophotom
33411	2	33812	37938	LCS			Cyanide by Midi/Spectrophotom
33411	4	33812	37938	MS		W07GR02361	Cyanide by Midi/Spectrophotom
33411	5	33812	37938	MSD		W07GR02361	Cyanide by Midi/Spectrophotom
33411	3	33812	37938	SAMPLE		W07GR02361	Cyanide by Midi/Spectrophotom
33411	5	33812	37938	SPK-RPD		W07GR02361	Cyanide by Midi/Spectrophotom
33411	7	33812	37938	MS		W07P001796	Cyanide by Midi/Spectrophotom
33411	8	33812	37938	MSD		W07P001796	Cyanide by Midi/Spectrophotom
33411	8	33812	37938	SPK-RPD		W07P001796	Cyanide by Midi/Spectrophotom

Department: Organic

## W13q Worklist/Batch/QC Report for Group# WSCF20071596

WL#	S#	Batch	QC#	Tray	Type	Sample#	Test
			37798	BLANK			NWTPH-D TPH Diesel Range (Wa)
			37798	LCS			NWTPH-D TPH Diesel Range (Wa)
			37798	SAMPLE		W07GR02361	NWTPH-D TPH Diesel Range (Wa)
			37798	SURR		W07GR02361	NWTPH-D TPH Diesel Range (Wa)
			37798	MS		W07P001789	NWTPH-D TPH Diesel Range (Wa)
			37798	MSD		W07P001789	NWTPH-D TPH Diesel Range (Wa)
			37798	SPK-RPD		W07P001789	NWTPH-D TPH Diesel Range (Wa)
			37859	BLANK			SW-846 8270C Semi-Vols
			37859	LCS			SW-846 8270C Semi-Vols
			37859	MS		W07GR02361	SW-846 8270C Semi-Vols
			37859	MSD		W07GR02361	SW-846 8270C Semi-Vols
			37859	SAMPLE		W07GR02361	SW-846 8270C Semi-Vols
			37859	SPK-RPD		W07GR02361	SW-846 8270C Semi-Vols
			37859	SURR		W07GR02361	SW-846 8270C Semi-Vols
			38034	BLANK			PCBs complete list
			38034	LCS			PCBs complete list
			38034	MS		W07GR02361	PCBs complete list
			38034	MSD		W07GR02361	PCBs complete list
			38034	SAMPLE		W07GR02361	PCBs complete list
			38034	SPK-RPD		W07GR02361	PCBs complete list
			38034	SURR		W07GR02361	PCBs complete list
33703	1	34101	38251	BLANK			NWTPH-GX TPH Gasoline Range
33703	2	34101	38251	LCS			NWTPH-GX TPH Gasoline Range
33703	4	34101	38251	DUP		W07GR02361	NWTPH-GX TPH Gasoline Range
33703	5	34101	38251	MS		W07GR02361	NWTPH-GX TPH Gasoline Range
33703	6	34101	38251	MSD		W07GR02361	NWTPH-GX TPH Gasoline Range
33703	3	34101	38251	SAMPLE		W07GR02361	NWTPH-GX TPH Gasoline Range
33703	6	34101	38251	SPK-RPD		W07GR02361	NWTPH-GX TPH Gasoline Range
33703	8	34101	38251	DUP		W07P001778	NWTPH-GX TPH Gasoline Range
33703	9	34101	38251	MS		W07P001778	NWTPH-GX TPH Gasoline Range
33703	10	34101	38251	MSD		W07P001778	NWTPH-GX TPH Gasoline Range
33703	10	34101	38251	SPK-RPD		W07P001778	NWTPH-GX TPH Gasoline Range

Department: Radiochemistry

## W13q Worklist/Batch/QC Report for Group# WSCF20071596

WL#	S#	Batch	QC#	Tray	Type	Sample#	Test
33370	1	33771	37863	BLANK			TC99 by Liquid Scin.
33370	2	33771	37863	LCS			TC99 by Liquid Scin.
33370	4	33771	37863	DUP		W07GR02297	TC99 by Liquid Scin.
33370	3	33771	37863	MS		W07GR02300	TC99 by Liquid Scin.
33370	10	33771	37863	SAMPLE		W07GR02361	TC99 by Liquid Scin.
33259	1	33662	37931	BLANK			Gross Alpha/Gross Beta (AB32)
33259	2	33662	37931	LCS			Gross Alpha/Gross Beta (AB32)
33259	3	33662	37931	DUP		W07GR02361	Gross Alpha/Gross Beta (AB32)
33259	4	33662	37931	SAMPLE		W07GR02361	Gross Alpha/Gross Beta (AB32)
33217	1	33621	37935	BLANK			Gamma Energy Analysis-grd H2O
33217	2	33621	37935	LCS			Gamma Energy Analysis-grd H2O
33217	3	33621	37935	DUP		W07GR02354	Gamma Energy Analysis-grd H2O
33217	5	33621	37935	SAMPLE		W07GR02361	Gamma Energy Analysis-grd H2O
33503	1	33902	38103	BLANK			Strontium 89/90
33503	2	33902	38103	LCS			Strontium 89/90
33503	3	33902	38103	DUP		W07GR02354	Strontium 89/90
33503	6	33902	38103	SAMPLE		W07GR02361	Strontium 89/90
33503	7	33902	38103	SURR		W07GR02361	Strontium 89/90
33558	1	33955	38140	BLANK			Plutonium Isotopics by AEA
33558	2	33955	38140	LCS			Plutonium Isotopics by AEA
33558	3	33955	38140	DUP		W07GR02361	Plutonium Isotopics by AEA
33558	4	33955	38140	SAMPLE		W07GR02361	Plutonium Isotopics by AEA
33558	5	33955	38140	SURR		W07GR02361	Plutonium Isotopics by AEA
33550	1	33952	38141	BLANK			Uranium Isotopics by AEA
33550	2	33952	38141	LCS			Uranium Isotopics by AEA
33550	3	33952	38141	DUP		W07GR02361	Uranium Isotopics by AEA
33550	4	33952	38141	SAMPLE		W07GR02361	Uranium Isotopics by AEA
33550	5	33952	38141	SURR		W07GR02361	Uranium Isotopics by AEA
33555	1	33957	38158	BLANK			Americium by AEA
33555	2	33957	38158	LCS			Americium by AEA
33555	3	33957	38158	DUP		W07GR02361	Americium by AEA
33555	4	33957	38158	SAMPLE		W07GR02361	Americium by AEA
33555	5	33957	38158	SURR		W07GR02361	Americium by AEA
33646	1	34043	38246	BLANK			Neptunium by AEA
33646	2	34043	38246	LCS			Neptunium by AEA
33646	3	34043	38246	DUP		W07GR02361	Neptunium by AEA
33646	5	34043	38246	MS		W07GR02361	Neptunium by AEA
33646	6	34043	38246	MSD		W07GR02361	Neptunium by AEA
33646	4	34043	38246	SAMPLE		W07GR02361	Neptunium by AEA
33646	6	34043	38246	SPK-RPD		W07GR02361	Neptunium by AEA

**WSCF**  
**METHOD REFERENCES REPORT**

Department: Inorganic

---

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory or industry methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though the WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

---

<b>LA-265-403</b>	<b>LA-265-403: Hexavalent Chromium analysis by Spectrophotometer</b> EPA SW-846 7196A                   HEXAVALENT CHROMIUM HEIS 7196_CR6                       Hexavalent Chromium
<b>LA-505-412</b>	<b>LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLASMA-MASS SPECTROMETRY</b> EPA-600/R-94-111 200.8           DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLASMA-MASS SPECTROMETRY HEIS 200.8_METALS_ICPMS       Inductively Coupled Plasma - Mass Spectrometry
<b>LA-533-410</b>	<b>LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY</b> EPA-600/R-94-111 300.0           DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY HEIS 300.0_ANIONS_IC           Determination of Inorganic Anions by Ion Chromatography
<b>LA-695-402</b>	<b>LA-695-402: DETERMINATION OF CYANIDE BY MIDIDISTILLATION AND SPECTROPHOTOMETRIC</b> EPA-600/4-79-020 335.2           Cyanide, Total HEIS 335.2_CYANIDE               Cyanide, Total

---

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at  
<http://www2.rl.gov/phmc/as-dol>.

Report Date: 16-oct-2007

Report #: WSCF20071596

Report WGPPM/5.2

Page 3

**WSCF**  
**METHOD REFERENCES REPORT**

Department: Organic

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory or industry methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though the WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

LA-523-427	LA-523-427: POLYCHLORINATED BIPHENYLS (PCBs) BY GAS CHROMATOGRAPHY EPA SW-846 3510C                    SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION EPA SW-846 3545                    PRESSURIZED FLUID EXTRACTION (PFE) EPA SW-846 3665A                    SULFURIC ACID/PERMANGANATE CLEANUP EPA SW-846 8000B                    DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS EPA SW-846 8082A                    POLYCHLORINATED BIPHENYLS (PCBs) BY GAS CHROMATOGRAPHY HEIS 8082_PCB_GC                    Polychlorinated Biphenyls (PCBs) by Gas Chromatography
LA-523-443	LA-523-443: GAS CHROMATOGRAPH ANALYSIS OF GASOLINE RANGE TOTAL PETROLEUM HYDROCARBONS HEIS WTPH_GASOLINE                Total Petroleum Hydrocarbons, Gasoline WDOE TPH_NWTPH-G                 Volatile Petroleum Products Method for Soil and Water
LA-523-456	LA-523-456: SEMIVOLATILE SAMPLE ANALYSIS BY SW-846, METHOD 8270C EPA SW-846 8000B                    DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS EPA SW-846 8270C                    SEMIVOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS) HEIS 8270_SVOA_GCMS                Semivolatile Organoc Compounds By Gas Chromatography/Mass Spectrometry (GC/MS)
LA-523-493	NWTPH-Diesel and/or Gasoline HEIS WTPH_DIESEL (HEIS)          Total Petroleum Hydrocarbons in Diesel WDOE TPHD                          Total Petroleum Hydrocarbons in Diesel

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at  
<http://www2.rl.gov/phmc/as-dol>.

Report Date: 16-oct-2007

Report #: WSCF20071596

Report WGPPM/5.2

**WSCF**  
**METHOD REFERENCES REPORT**

Department: Radiochemistry

---

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory or industry methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though the WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

---

LA-508-415	LA-508-415: OPERATION OF THE PROTEAN 2-INCH ALPHA/BETA COUNTING SYSTEM FOR GROSS HEIS_ALPHA_GPC                    GROSS ALPHA GPC HEIS_BETA_GPC                    GROSS BETA GPC HEIS_SRTOT_SEP_PRECIP_GS <del>Gontium</del> 89/90
LA-508-421	LA-508-421: OPERATION OF THE TRI-CARB MODEL 2500TR LIQUID SCINTILLATION ANALYZER HEIS_ALPHA_LSC                    A/B Liquid Scintillation HEIS_BETA_LSC                    A/B Liquid Scintillation HEIS_TC99_3MDSK_LSC            TC99 by Liquid Scintillation HEIS_TRITIUM_EIE_LSC           Tritium Liquid Scintillation
LA-508-471	LA-508-471: ALPHA ENERGY ANALYZER DATA ACQUISITION AND SYSTEM CHECKOUT USING ALP HEIS_PUISO_IE_PRECIP_AEA <del>Plutonium</del> by Alpha Energy Analysis HEIS_RAISO_AEA                   Radium-226
LA-508-481	LA-508-481: GAMMA ENERGY ANALYSIS USING PROCOUNT SOFTWARE HEIS_GAMMA_GS                    Gamma Emission Spectrometry

---

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at  
<http://www2.rl.gov/phmc/as-dol>.

Report Date: 16-oct-2007

Report #: WSCF20071596

Report WGPPM/5.2

# WSCF

## ANALYTICAL RESULTS REPORT

Attention: Steve Trent  
 SAF Number: F07-058  
 Sample #: W07GR02361  
 Client ID: B1PLH0      TRENT  
                           WSCF

Group #: WSCF20071596  
 Department: Inorganic  
 Sampled: 09/06/07  
 Received: 09/06/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
<b>Anions by Ion Chromatography</b>											
Fluoride	16984-48-8	LA-533-410	BD	0.118	mg/L			2.00	0.012		09/07/07
Nitrogen in Nitrite	NO2-N	LA-533-410	BD	0.0449	mg/L			2.00	0.020		09/07/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	15.7	mg/L			10.00	0.050		09/07/07
Phosphate (P) by IC	PO4-P	LA-533-410	DU	< 0.0800	mg/L			2.00	0.080		09/07/07
Sulfate	14808-79-8	LA-533-410	D	73.2	mg/L			2.00	0.14		09/07/07
<b>Cyanide</b>											
Cyanide	57-12-5	LA-895-402	U	< 4.00	ug/L			1.00	4.0		09/18/07
<b>Hexavalent Chromium</b>											
Hexavalent Chromium	18540-29-9	LA-285-403	B	2.60e-03	mg/L			1.00	2.0e-03		09/06/07
<b>ICP-200.8 MS All possible meta Prep</b>											
<b>ICP-200.8 MS All possible meta</b>											
Manganese	7439-96-5	LA-505-412		119	ug/L			1.00	0.100		09/19/07
Nickel	7440-02-0	LA-505-412		1.89	ug/L			1.00	0.200		09/19/07
Silver	7440-22-4	LA-505-412	U	< 0.100	ug/L			1.00	0.100		09/19/07
Antimony	7440-36-0	LA-505-412		0.437	ug/L			1.00	0.300		09/19/07
Barium	7440-39-3	LA-505-412		40.9	ug/L			1.00	0.200		09/19/07
Cadmium	7440-43-9	LA-505-412	U	< 0.100	ug/L			1.00	0.100		09/19/07
Chromium	7440-47-3	LA-505-412		1.05	ug/L			1.00	0.500		09/19/07
Copper	7440-50-8	LA-505-412		0.356	ug/L			1.00	0.100		09/19/07
Vanadium	7440-62-2	LA-505-412		0.314	ug/L			1.00	0.200		09/19/07
Zinc	7440-66-6	LA-505-412		1.22	ug/L			1.00	0.800		09/19/07
Lead	7439-92-1	LA-505-412	U	< 0.100	ug/L			1.00	0.100		09/19/07
Mercury	7439-97-6	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500		09/19/07
Uranium	7440-61-1	LA-505-412		11.0	ug/L			1.00	0.0500		09/19/07

**MDL=Minimum Detection Limit**

B - The analyte < the RDL but > = the IDL/MDL (inorg)

D - Analyte was identified at a secondary dilution factor(inorg)

**RQ=Result Qualifier**

U - Analyzed for but not detected above limiting criteria(inorg)

U - Analyzed for but not detected above limiting criteria(org)

**TP Err=Total Propagated Error**

+ - Indicates more than six qualifier symbols

\* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

**Report WGPP/ver. 5.2**

**Groundwater Remediation Program**

**WSCF**  
**ANALYTICAL RESULTS REPORT**

Attention: Steve Trent  
 SAF Number: F07-058  
 Sample #: W07GR02361  
 Client ID: B1PLH0      TRENT  
                   WSCF

Group #: WSCF20071596  
 Department: Inorganic  
 Sampled: 09/06/07  
 Received: 09/06/07

Matrix: WATER

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Arsenic	7440-38-2	LA-505-412	U	< 0.400	ug/L			1.00	0.400		09/19/07
Selenium	7782-49-2	LA-505-412		4.97	ug/L			1.00	0.300		09/19/07
Thallium	7440-28-0	LA-505-412	U	< 0.100	ug/L			1.00	0.100		09/19/07

MDL=Minimum Detection Limit

B - The analyte < the RDL but > = the IDL/MDL (inorg)

D - Analyte was identified at a secondary dilution factor(inorg)

RQ=Result Qualifier

U - Analyzed for but not detected above limiting criteria(inorg)

U - Analyzed for but not detected above limiting criteria.(org)

TP Err=Total Propagated Error

DF=Dilution Factor

\* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071596

Matrix: WATER

Test: Anions by Ion Chromatography

Sample Date: 09/06/07

Receive Date: 09/06/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
---------	---------	-------	----------	----------	-------	-------------	-------------	--------	-----------	----	---------------

Lab ID: W07GR02360

## BATCH QC ASSOCIATED WITH SAMPLE

DUP	Fluoride	16984-48-8	0.3181		RPD			1.297	20.000		09/07/07
DUP	Nitrogen in Nitrite	NO2-N	<1e-2		RPD			n/a	20.000	U	09/07/07
DUP	Nitrogen in Nitrate	NO3-N	32.1516		RPD			1.562	20.000		09/07/07
DUP	Phosphate (P) by IC	PO4-P	<4e-2		RPD			n/a	20.000	U	09/07/07
DUP	Sulfate	14808-79-8	47.1478		RPD			1.784	20.000		09/07/07
MS	Fluoride	16984-48-8	0.5153	102.649	% Recov	75.000	125.000				09/07/07
MS	Nitrogen in Nitrite	NO2-N	0.5211	104.639	% Recov	75.000	125.000				09/07/07
MS	Nitrogen in Nitrate	NO3-N	0.422525	93.686	% Recov	75.000	125.000				09/07/07
MS	Phosphate (P) by IC	PO4-P	0.8657	90.744	% Recov	75.000	125.000				09/07/07
MS	Sulfate	14808-79-8	1.891875	95.549	% Recov	75.000	125.000				09/07/07
MSD	Fluoride	16984-48-8	0.5235	104.283	% Recov	75.000	125.000				09/07/07
MSD	Nitrogen in Nitrite	NO2-N	0.5129	102.992	% Recov	75.000	125.000				09/07/07
MSD	Nitrogen in Nitrate	NO3-N	0.432795	95.963	% Recov	75.000	125.000				09/07/07
MSD	Phosphate (P) by IC	PO4-P	0.8709	91.289	% Recov	75.000	125.000				09/07/07
MSD	Sulfate	14808-79-8	1.92679	97.313	% Recov	75.000	125.000				09/07/07
SPK-RPD	Fluoride	16984-48-8	104.283		RPD			1.579	20.000		09/08/07
SPK-RPD	Nitrogen in Nitrite	NO2-N	102.992		RPD			1.586	20.000		09/08/07
SPK-RPD	Nitrogen in Nitrate	NO3-N	95.963		RPD			2.401	20.000		09/08/07
SPK-RPD	Phosphate (P) by IC	PO4-P	91.289		RPD			0.599	20.000		09/08/07
SPK-RPD	Sulfate	14808-79-8	97.313		RPD			1.829	20.000		09/08/07

## BATCH QC

BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	09/07/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	09/08/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	09/08/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	09/07/07

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071596

Matrix: WATER

Test: Anions by Ion Chromatography

Sample Date:

Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	09/08/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	09/07/07
BLANK	Phosphate (P) by IC	PO4-P	<4e-2	n/a	mg/L	0.000	0.200			U	09/07/07
BLANK	Phosphate (P) by IC	PO4-P	<4e-2	n/a	mg/L	0.000	0.200			U	09/08/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	09/07/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	09/08/07
LCS	Fluoride	16984-48-8	100.5693	99.574	% Recov	80.000	120.000				09/07/07
LCS	Nitrogen in Nitrite	NO2-N	101.613	101.613	% Recov	80.000	120.000				09/07/07
LCS	Nitrogen in Nitrate	NO3-N	90.8181	99.581	% Recov	80.000	120.000				09/07/07
LCS	Phosphate (P) by IC	PO4-P	185.9567	96.451	% Recov	80.000	120.000				09/07/07
LCS	Sulfate	14808-79-8	376.0728	94.018	% Recov	80.000	120.000				09/07/07

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071596

Matrix: WATER

Test: Cyanide by Midi/Spectrophotom

Sample Date: 09/06/07

Receive Date: 09/06/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
<b>Lab ID: W07GR02361</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
MS	Cyanide by Midi/Spectrophotom	57-12-5	36.5	93.350	% Recov	75.000	125.000				09/18/07
MSD	Cyanide by Midi/Spectrophotom	57-12-5	38.8	99.233	% Recov	75.000	125.000				09/18/07
SPK-RPD	Cyanide by Midi/Spectrophotom	57-12-5	99.233		RPD			6.110	20.000		09/18/07
<b>Lab ID: W07P001796</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
MS	Cyanide by Midi/Spectrophotom	57-12-5	39.9	102.046	% Recov	75.000	125.000				09/18/07
MSD	Cyanide by Midi/Spectrophotom	57-12-5	38.8	99.233	% Recov	75.000	125.000				09/18/07
SPK-RPD	Cyanide by Midi/Spectrophotom	57-12-5	99.233		RPD			2.795	20.000		09/18/07
<b>BATCH QC</b>											
BLANK	Cyanide by Midi/Spectrophotom	57-12-5	0.1	0.100	ug/L	-4.000	4.000				09/18/07
LCS	Cyanide by Midi/Spectrophotom	57-12-5	47.9	97.955	% Recov	85.000	115.000				09/18/07

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071596

Matrix: WATER

Test: Hexavalent chromium

Sample Date: 09/06/07

Receive Date: 09/06/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
---------	---------	-------	----------	----------	-------	-------------	-------------	--------	-----------	----	---------------

Lab ID: W07GR02361

## BATCH QC ASSOCIATED WITH SAMPLE

DUP	Hexavalent chromium	18540-29-9	<0.002		RPD			n/a	15.000	U	09/06/07
MS	Hexavalent chromium	18540-29-9	0.0527	99.811	% Recov	85.000	115.000				09/06/07
MSD	Hexavalent chromium	18540-29-9	0.0514	97.348	% Recov	85.000	115.000				09/06/07
SPK-RPD	Hexavalent chromium	18540-29-9	97.348		RPD			2.498	20.000		09/06/07

## BATCH QC

BLANK	Hexavalent chromium	18540-29-9	<0.002	n/a	mg/L	0.000	2.000		U	09/06/07
BLANK	Hexavalent chromium	18540-29-9	<0.002	n/a	mg/L	0.000	2.000		U	09/06/07
LCS	Hexavalent chromium	18540-29-9	0.0500	100.604	% Recov	80.000	120.000			09/06/07

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071596

Matrix: WATER

Test: ICP-200.8 MS All possible meta

Sample Date: 09/06/07

Receive Date: 09/06/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
---------	---------	-------	----------	----------	-------	-------------	-------------	--------	-----------	----	---------------

Lab ID: W07GR02361

## BATCH QC ASSOCIATED WITH SAMPLE

MS	Silver	7440-22-4	38.55	96.375	% Recov	70.000	130.000				09/19/07
MS	Arsenic	7440-38-2	39.12	97.800	% Recov	70.000	130.000				09/19/07
MS	Barium	7440-39-3	40.61	101.525	% Recov	70.000	130.000				09/19/07
MS	Cadmium	7440-43-9	37.7	94.250	% Recov	70.000	130.000				09/19/07
MS	Chromium	7440-47-3	37.71	94.275	% Recov	70.000	130.000				09/19/07
MS	Copper	7440-50-8	37.0138	92.535	% Recov	70.000	130.000				09/19/07
MS	Mercury	7439-97-6	2.176	108.800	% Recov	70.000	130.000				09/19/07
MS	Manganese	7439-96-5	40	100.000	% Recov	70.000	130.000				09/19/07
MS	Nickel	7440-02-0	37.063	92.657	% Recov	70.000	130.000				09/19/07
MS	Lead	7439-92-1	41.4	103.500	% Recov	70.000	130.000				09/19/07
MS	Antimony	7440-36-0	45.8027	114.007	% Recov	70.000	130.000				09/19/07
MS	Selenium	7782-49-2	36.599	91.497	% Recov	70.000	130.000				09/19/07
MS	Thallium	7440-28-0	39.39	98.475	% Recov	70.000	130.000				09/19/07
MS	Uranium	7440-61-1	40.54	101.350	% Recov	70.000	130.000				09/19/07
MS	Vanadium	7440-62-2	37.8962	94.741	% Recov	70.000	130.000				09/19/07
MS	Zinc	7440-86-6	35.782	89.455	% Recov	70.000	130.000				09/19/07
MSD	Silver	7440-22-4	38.62	96.550	% Recov	70.000	130.000				09/19/07
MSD	Arsenic	7440-38-2	38.95	97.375	% Recov	70.000	130.000				09/19/07
MSD	Barium	7440-39-3	39.95	99.875	% Recov	70.000	130.000				09/19/07
MSD	Cadmium	7440-43-9	38	95.000	% Recov	70.000	130.000				09/19/07
MSD	Chromium	7440-47-3	37.88	94.700	% Recov	70.000	130.000				09/19/07
MSD	Copper	7440-50-8	37.1138	92.784	% Recov	70.000	130.000				09/19/07
MSD	Mercury	7439-97-6	2.212	110.600	% Recov	70.000	130.000				09/19/07
MSD	Manganese	7439-96-5	39.6	99.000	% Recov	70.000	130.000				09/19/07
MSD	Nickel	7440-02-0	37.853	94.633	% Recov	70.000	130.000				09/19/07
MSD	Lead	7439-92-1	41.36	103.400	% Recov	70.000	130.000				09/19/07

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071596

Matrix: WATER

Test: ICP-200.8 MS All possible meta

Sample Date: 09/06/07

Receive Date: 09/06/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Antimony	7440-36-0	45.5727	113.932	% Recov	70.000	130.000				09/19/07
MSD	Selenium	7782-49-2	35.899	89.748	% Recov	70.000	130.000				09/19/07
MSD	Thallium	7440-28-0	39.33	98.325	% Recov	70.000	130.000				09/19/07
MSD	Uranium	7440-61-1	40.29	100.725	% Recov	70.000	130.000				09/19/07
MSD	Vanadium	7440-62-2	38.1362	95.341	% Recov	70.000	130.000				09/19/07
MSD	Zinc	7440-66-6	35.052	87.630	% Recov	70.000	130.000				09/19/07
SPK-RPD	Silver	7440-22-4	96.550		RPD			0.181	20.000		09/19/07
SPK-RPD	Arsenic	7440-38-2	97.375		RPD			0.436	20.000		09/19/07
SPK-RPD	Barium	7440-39-3	99.875		RPD			1.639	20.000		09/19/07
SPK-RPD	Cadmium	7440-43-9	95.000		RPD			0.793	20.000		09/19/07
SPK-RPD	Chromium	7440-47-3	94.700		RPD			0.450	20.000		09/19/07
SPK-RPD	Copper	7440-50-8	92.784		RPD			0.269	20.000		09/19/07
SPK-RPD	Mercury	7439-97-6	110.600		RPD			1.841	20.000		09/19/07
SPK-RPD	Manganese	7439-96-5	99.000		RPD			1.005	20.000		09/19/07
SPK-RPD	Nickel	7440-02-0	94.633		RPD			2.110	20.000		09/19/07
SPK-RPD	Lead	7439-92-1	103.400		RPD			0.097	20.000		09/19/07
SPK-RPD	Antimony	7440-36-0	113.932		RPD			0.066	20.000		09/19/07
SPK-RPD	Selenium	7782-49-2	89.748		RPD			1.930	20.000		09/19/07
SPK-RPD	Thallium	7440-28-0	98.325		RPD			0.152	20.000		09/19/07
SPK-RPD	Uranium	7440-61-1	100.725		RPD			0.619	20.000		09/19/07
SPK-RPD	Vanadium	7440-62-2	95.341		RPD			0.631	20.000		09/19/07
SPK-RPD	Zinc	7440-66-6	87.630		RPD			2.061	20.000		09/19/07

## BATCH QC

BLANK	Silver	7440-22-4	<0.1	n/a	ug/L			U	09/19/07
BLANK	Arsenic	7440-38-2	<0.4	n/a	ug/L			U	09/19/07
BLANK	Barium	7440-39-3	<0.2	n/a	ug/L			U	09/19/07
BLANK	Cadmium	7440-43-9	<0.1	n/a	ug/L			U	09/19/07
BLANK	Chromium	7440-47-3	<0.5	n/a	ug/L			U	09/19/07
BLANK	Copper	7440-50-8	<0.1	n/a	ug/L			U	09/19/07

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071596

Matrix: WATER

Test: ICP-200.8 MS All possible meta

Sample Date:

Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	Mercury	7439-97-6	<5e-2	n/a	ug/L					U	09/19/07
BLANK	Manganese	7439-96-5	<0.1	n/a	ug/L					U	09/19/07
BLANK	Nickel	7440-02-0	<0.2	n/a	ug/L					U	09/19/07
BLANK	Lead	7439-92-1	<0.1	n/a	ug/L					U	09/19/07
BLANK	Antimony	7440-36-0	<0.3	n/a	ug/L					U	09/19/07
BLANK	Selenium	7782-49-2	<0.3	n/a	ug/L					U	09/19/07
BLANK	Thallium	7440-28-0	<0.1	n/a	ug/L					U	09/19/07
BLANK	Uranium	7440-61-1	<5e-2	n/a	ug/L					U	09/19/07
BLANK	Vanadium	7440-62-2	<0.2	n/a	ug/L					U	09/19/07
BLANK	Zinc	7440-66-6	<0.8	n/a	ug/L					U	09/19/07
LCS	Silver	7440-22-4	39.54	98.850	% Recov	85.000	115.000				09/19/07
LCS	Arsenic	7440-38-2	38.02	95.050	% Recov	85.000	115.000				09/19/07
LCS	Barium	7440-39-3	39.01	97.525	% Recov	85.000	115.000				09/19/07
LCS	Cadmium	7440-43-8	38.96	97.400	% Recov	85.000	115.000				09/19/07
LCS	Chromium	7440-47-3	39.47	98.675	% Recov	85.000	115.000				09/19/07
LCS	Copper	7440-50-8	39.82	99.550	% Recov	85.000	115.000				09/19/07
LCS	Mercury	7439-97-6	2.098	104.900	% Recov	85.000	115.000				09/19/07
LCS	Manganese	7439-96-5	38.82	97.050	% Recov	85.000	115.000				09/19/07
LCS	Nickel	7440-02-0	39.84	99.600	% Recov	85.000	115.000				09/19/07
LCS	Lead	7439-92-1	40.19	100.475	% Recov	85.000	115.000				09/19/07
LCS	Antimony	7440-36-0	45.24	113.100	% Recov	85.000	115.000				09/19/07
LCS	Selenium	7782-49-2	37.25	93.125	% Recov	85.000	115.000				09/19/07
LCS	Thallium	7440-28-0	38.02	95.050	% Recov	85.000	115.000				09/19/07
LCS	Uranium	7440-61-1	37.43	93.575	% Recov	85.000	115.000				09/19/07
LCS	Vanadium	7440-62-2	38.4	96.000	% Recov	85.000	115.000				09/19/07
LCS	Zinc	7440-66-6	38.96	97.400	% Recov	85.000	115.000				09/19/07

**WSCF**  
**ANALYTICAL RESULTS REPORT**

**Attention:** Steve Trent

**SAF Number:**F07-058

**Sample #** W07GR02361

**Client ID:** B1PLH0    **TRENT**  
                          **WSCF**

**Matrix:** WATER

**Group #:** WSCF20071596

**Department:** Organic

**Sampled:** 09/06/07

**Received:** 09/06/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
NWTPH-D TPH Diesel Range (Wa) Prep											09/10/07
NWTPH-D TPH Diesel Range (Wa)											
Total Pet. Hydrocarbons Diesel	TPHDIESEL	LA-523-493	U	< 71.0	ug/L			1.00	71		09/13/07
Kerosene	TPHKEROSENE	LA-523-493	U	< 71.0	ug/L			1.00	71		09/13/07
NWTPH-GX TPH Gasoline Range Prep											09/14/07
NWTPH-GX TPH Gasoline Range											
Total Pet. Hydrocarbons Gas	TPHGASOLINE	LA-523-443	U	< 250	ug/L			1.00	50		09/14/07
PCBs complete list Prep											09/12/07
PCBs complete list											
Aroclor-1018	12674-11-2	LA-523-427	U	< 0.110	ug/L			1.00	0.11		09/27/07
Aroclor-1221	11104-28-2	LA-523-427	U	< 0.210	ug/L			1.00	0.21		09/27/07
Aroclor-1232	11141-16-5	LA-523-427	U	< 0.110	ug/L			1.00	0.11		09/27/07
Aroclor-1242	53469-21-9	LA-523-427	U	< 0.110	ug/L			1.00	0.11		09/27/07
Aroclor-1248	12672-29-6	LA-523-427	U	< 0.110	ug/L			1.00	0.11		09/27/07
Aroclor-1254	11097-69-1	LA-523-427	U	< 0.110	ug/L			1.00	0.11		09/27/07
Aroclor-1260	11098-82-5	LA-523-427	U	< 0.110	ug/L			1.00	0.11		09/27/07
Aroclor-1262	37324-23-5	LA-523-427	U	< 0.110	ug/L			1.00	0.11		09/27/07
Aroclor-1268	11100-14-4	LA-523-427	U	< 0.110	ug/L			1.00	0.11		09/27/07
SW-846 8270C Semi-Vols Prep											09/11/07
SW-846 8270C Semi-Vols											
4-Nitrophenol	100-02-7	LA-523-456	U	< 0.970	ug/L			1.00	0.97		09/17/07
1,4-Dichlorobenzene	106-46-7	LA-523-456	U	< 1.40	ug/L			1.00	1.4		09/17/07
Phenol	108-95-2	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
1,2,4-Trichlorobenzene	120-82-1	LA-523-456	U	< 2.10	ug/L			1.00	2.1		09/17/07
2,4-Dinitrotoluene	121-14-2	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07

**MDL=**Minimum Detection Limit

B - The analyte < the RDL but > = the IDL/MDL (inorg)

D - Analyte was identified at a secondary dilution factor(inorg)

**RQ=**Result Qualifier

U - Analyzed for but not detected above limiting criteria(inorg)

U - Analyzed for but not detected above limiting criteria.(org)

**TP Err=**Total Propagated Error

**DF=**Dilution Factor

\* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

Groundwater Remediation Program

# WSCF

## ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:**F07-058  
**Sample #** W07GR02361  
**Client ID:** B1PLH0    **TRENT**  
**WSCF**

**Group #:** WSCF20071596  
**Department:** Organic  
**Sampled:** 09/06/07  
**Received:** 09/06/07

<b>Test Performed</b>	<b>CAS #</b>	<b>Method</b>	<b>RQ</b>	<b>Result</b>	<b>Unit</b>	<b>Matrix:</b>	<b>WATER</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Analysis Date</b>
Pyrene	129-00-0	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
4-Chloro-3-methylphenol	59-50-7	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
N-Nitrosodi-n-dipropylamine	621-64-7	LA-523-456	U	< 0.580	ug/L			1.00	0.58		09/17/07
Acenaphthene	83-32-9	LA-523-456	U	< 2.50	ug/L			1.00	2.5		09/17/07
Pentachlorophenol	87-86-5	LA-523-456	U	< 1.50	ug/L			1.00	1.5		09/17/07
2-Chlorophenol	95-57-8	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
4-Nitroaniline	100-01-6	LA-523-456	U	< 0.970	ug/L			1.00	0.97		09/17/07
4-Bromophenylphenyl ether	101-55-3	LA-523-456	U	< 0.970	ug/L			1.00	0.97		09/17/07
2,4-Dimethylphenol	105-67-9	LA-523-456	U	< 0.920	ug/L			1.00	0.92		09/17/07
4-Chloroaniline	106-47-8	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
Bis(2-chloro-1-methylethyl)eth	108-60-1	LA-523-456	U	< 0.970	ug/L			1.00	0.97		09/17/07
Bis(2-chloroethyl) ether	111-44-4	LA-523-456	U	< 0.870	ug/L			1.00	0.87		09/17/07
Bis(2-Chloroethoxy)methane	111-91-1	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
Bis(2-ethylhexyl) phthalate	117-81-7	LA-523-456	U	< 0.780	ug/L			1.00	0.78		09/17/07
Di-n-octylphthalate	117-84-0	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
Hexachlorobenzene	118-74-1	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
Anthracene	120-12-7	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
2,4-Dichlorophenol	120-83-2	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
Dimethyl phthalate	131-11-3	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
Dibenzofuran	132-64-9	LA-523-456	U	< 2.10	ug/L			1.00	2.1		09/17/07
Benzo(gh)perylene	191-24-2	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
Indeno(1,2,3-cd)pyrene	193-39-5	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
Benzo(b)fluoranthene	205-99-2	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
Fluoranthene	206-44-0	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
Benzo(k)fluoranthene	207-08-9	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07

**MDL=Minimum Detection Limit**

B - The analyte < the RDL but > = the IDL/MDL (inorg)

D - Analyte was identified at a secondary dilution factor(inorg)

**RQ=Result Qualifier**

U - Analyzed for but not detected above limiting criteria(inorg)

U - Analyzed for but not detected above limiting criteria.(org)

**TP Err=Total Propagated Error**

**DF=Dilution Factor**

\* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

**Report WGPP/ver. 5.2**

**Groundwater Remediation Program**

**WSCF**  
**ANALYTICAL RESULTS REPORT**

**Attention:** Steve Trent  
**SAF Number:** F07-058  
**Sample #** W07GR02361  
**Client ID:** B1PLH0

TRENT  
WSCF

Matrix: WATER

**Group #:** WSCF20071596  
**Department:** Organic  
**Sampled:** 09/06/07  
**Received:** 09/06/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Acenaphthylene	208-96-8	LA-523-456	U	< 2.20	ug/L			1.00	2.2		09/17/07
Chrysene	218-01-9	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
Benzo(a)pyrene	50-32-8	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
2,4-Dinitrophenol	51-28-5	LA-523-456	U	< 1.90	ug/L			1.00	1.9		09/17/07
Dibenz(a,h)anthracene	53-70-3	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
4,6-Dinitro-2-methylphenol	534-52-1	LA-523-456	U	< 0.970	ug/L			1.00	0.97		09/17/07
1,3-Dichlorobenzene	541-73-1	LA-523-456	U	< 1.30	ug/L			1.00	1.3		09/17/07
Benzo(a)anthracene	56-56-3	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
2,6-Dinitrotoluene	606-20-2	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
4-Chlorophenylphenyl ether	7005-72-3	LA-523-456	U	< 1.70	ug/L			1.00	1.7		09/17/07
Hexachlorocyclopentadiene	77-47-4	LA-523-456	U	< 4.90	ug/L			1.00	4.9		09/17/07
Isophorone	78-59-1	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
Diethylphthalate	84-66-2	LA-523-456	U	< 1.80	ug/L			1.00	1.8		09/17/07
Di-n-butylphthalate	84-74-2	LA-523-456	U	< 2.20	ug/L			1.00	2.2		09/17/07
Phenanthrene	85-01-8	LA-523-456	U	< 0.530	ug/L			1.00	0.53		09/17/07
Butylbenzylphthalate	85-68-7	LA-523-456	U	< 0.580	ug/L			1.00	0.58		09/17/07
N-Nitrosodiphenylamine	86-30-6	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
Fluorene	86-73-7	LA-523-456	U	< 1.40	ug/L			1.00	1.4		09/17/07
Carbazole	86-74-8	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
Hexachlorobutadiene	87-68-3	LA-523-456	U	< 1.90	ug/L			1.00	1.9		09/17/07
2-Nitroaniline	88-74-4	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
2-Nitrophenol	88-75-5	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
Naphthalene	91-20-3	LA-523-456	U	< 2.00	ug/L			1.00	2.0		09/17/07
2-Methylnaphthalene	91-57-6	LA-523-456	U	< 2.90	ug/L			1.00	2.9		09/17/07
2-Chloronaphthalene	91-58-7	LA-523-456	U	< 3.40	ug/L			1.00	3.4		09/17/07

**MDL=Minimum Detection Limit**

B - The analyte < the RDL but > = the IDL/MDL (inorg)

D - Analyte was identified at a secondary dilution factor(inorg)

**RQ=Result Qualifier**

U - Analyzed for but not detected above limiting criteria(inorg)

U - Analyzed for but not detected above limiting criteria(org)

**TP Err=Total Propagated Error**

+ - Indicates more than six qualifier symbols

**DF=Dilution Factor**

\* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

Report WGPP ver. 5.2

Groundwater Remediation Program

# WSCF

## ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:**F07-058  
**Sample #** W07GR02361  
**Client ID:** B1PLH0

TRENT  
WSCF

**Group #:** WSCF20071596  
**Department:** Organic  
**Sampled:** 09/06/07  
**Received:** 09/06/07

**Matrix:** WATER

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
3,3'-Dichlorobenzidine	91-94-1	LA-523-456	U	< 0.780	ug/L			1.00	0.78		09/17/07
2-Methylphenol (cresol, o-)	95-48-7	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
1,2-Dichlorobenzene	95-50-1	LA-523-456	U	< 1.50	ug/L			1.00	1.5		09/17/07
2,4,5-Trichlorophenol	95-95-4	LA-523-456	U	< 0.630	ug/L			1.00	0.63		09/17/07
Nitrobenzene	98-95-3	LA-523-456	U	< 0.580	ug/L			1.00	0.58		09/17/07
3-Nitroaniline	99-09-2	LA-523-456	U	< 0.580	ug/L			1.00	0.58		09/17/07
3 & 4 Methylphenol Total	65794-96-9	LA-523-456	- U	< 0.490	ug/L			1.00	0.49		09/17/07
Hexachloroethane	67-72-1	LA-523-456	U	< 1.40	ug/L			1.00	1.4		09/17/07
2,4,6-Trichlorophenol	88-06-2	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
Tributyl phosphate	126-73-8	LA-523-456	U	< 0.490	ug/L			1.00	0.49		09/17/07
Dimethoate	60-51-5	LA-523-456	U	< 0.970	ug/L			1.00	0.97		09/17/07

**MDL=Minimum Detection Limit**

B - The analyte < the RDL but > = the IDL/MDL (inorg)

D - Analyte was identified at a secondary dilution factor(inorg)

**RQ=Result Qualifier**

U - Analyzed for but not detected above limiting criteria(inorg)

U - Analyzed for but not detected above limiting criteria.(org)

**TP Err=Total Propagated Error**

+ - Indicates more than six qualifier symbols

**DF=Dilution Factor**

\* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

**WSCF**  
**TENTATIVELY IDENTIFIED PEAK REPORT**

**Attention:** Steve Trent  
**Project Number** F07-058 :F07-058

**Group #:** WSCF20071596  
**Department:** Organic

Sample #	Client ID	Test Name	Peak Name	CAS#	RT	RQ	Result	Units	
W07GR02361	B1PLHO	TRENT	SW-846 8270C Semi-Vols	SMP 5.656 n-Hexadecanoic acid	57-10-3	5.656583	J	4.2	ug/L
W07GR02361	B1PLHO	TRENT	SW-846 8270C Semi-Vols	SMP 6.313 2-Butoxyethanol	111-76-2	6.313933		3.9	ug/L
W07GR02361	B1PLHO	TRENT	SW-846 8270C Semi-Vols	SMP 6.442 Ethane, 1,1,2,2-tetra-	79-34-5	6.4422	J	18	ug/L
W07GR02361	B1PLHO	TRENT	SW-846 8270C Semi-Vols	SMP 7.243 2-Pyrrolidinone, 1-methyl-	872-50-4	7.24385	J	78	ug/L
W07GR02361	B1PLHO	TRENT	SW-846 8270C Semi-Vols	SMP 7.537 Unknown Organic Acid	Unknown	7.5378	J	8.1	ug/L
W07GR02361	B1PLHO	TRENT	SW-846 8270C Semi-Vols	SMP 7.756 Unknown	Unknown	7.756916	J	6.1	ug/L
W07GR02361	B1PLHO	TRENT	SW-846 8270C Semi-Vols	SMP 8.098 Benzoic acid	65-85-0	8.09895		7.7	ug/L
W07GR02361	B1PLHO	TRENT	SW-846 8270C Semi-Vols	SMP 8.120 Unknown Organic Acid	Unknown	8.120333	J	4.7	ug/L

**RQ=Result Qualifier**

J - Analyte < lowest calibration but > = MDL.(org)

This report may not be reproduced, except in its entirety without the written approval of the WSCF Laboratory.

*Groundwater Remediation Program*

WGPPE v 5.2 Report #: WSCF20071596

Report Date: 16-oct-2007

Page 1

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071596

Matrix: WATER

Test: PCBs complete list

Sample Date: 09/06/07

Receive Date: 09/06/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
---------	---------	-------	----------	----------	-------	-------------	-------------	--------	-----------	----	---------------

Lab ID: W07GR02361

## BATCH QC ASSOCIATED WITH SAMPLE

MS	Aroclor-1260	11096-82-5	2.2885	114.000	% Recov	75.000	125.000				09/27/07
MS	Decachlorobiphenyl	2051-24-3	2.1607	108.000	% Recov	50.000	150.000				09/27/07
MS	Tetrachloro-m-xylene	877-09-8	2.0362	102.000	% Recov	50.000	150.000				09/27/07
MSD	Aroclor-1260	11096-82-5	2.2984	109.000	% Recov	75.000	125.000				09/27/07
MSD	Decachlorobiphenyl	2051-24-3	2.1185	101.000	% Recov	50.000	150.000				09/27/07
MSD	Tetrachloro-m-xylene	877-09-8	2.2486	107.000	% Recov	50.000	150.000				09/27/07
SPK-RPD	Aroclor-1260	11096-82-5	109.000		RPD			4.484	25.000		09/27/07
SPK-RPD	Decachlorobiphenyl	2051-24-3	101.000		RPD			6.699	20.000		09/27/07
SPK-RPD	Tetrachloro-m-xylene	877-09-8	107.000		RPD			4.785	20.000		09/27/07
SURR	Decachlorobiphenyl	2051-24-3	2.1182	101.000	% Recov	50.000	150.000				09/27/07
SURR	Tetrachloro-m-xylene	877-09-8	2.1344	101.000	% Recov	50.000	150.000				09/27/07

## BATCH QC

BLANK	Aroclor-1016	12674-11-2	< 0.10	n/a	ug/L				U	09/27/07	
BLANK	Aroclor-1221	11104-28-2	< 0.20	n/a	ug/L				U	09/27/07	
BLANK	Aroclor-1232	11141-16-5	< 0.10	n/a	ug/L				U	09/27/07	
BLANK	Aroclor-1242	53469-21-9	< 0.10	n/a	ug/L				U	09/27/07	
BLANK	Aroclor-1248	12672-29-8	< 0.10	n/a	ug/L				U	09/27/07	
BLANK	Aroclor-1254	11097-69-1	< 0.10	n/a	ug/L				U	09/27/07	
BLANK	Aroclor-1260	11096-82-5	< 0.10	n/a	ug/L				U	09/27/07	
BLANK	Aroclor-1262	37324-23-5	< 0.10	n/a	ug/L				U	09/27/07	
BLANK	Aroclor-1268	11100-14-4	< 0.10	n/a	ug/L				U	09/27/07	
BLANK	Decachlorobiphenyl	2051-24-3	2.1217	106.000	% Recov	50.000	150.000				09/27/07
BLANK	Tetrachloro-m-xylene	877-09-8	2.0880	104.000	% Recov	50.000	150.000				09/27/07
LCS	Aroclor-1260	11096-82-5	1.9866	99.300	% Recov	70.000	130.000				09/27/07
LCS	Decachlorobiphenyl	2051-24-3	1.8795	94.000	% Recov	50.000	150.000				09/27/07

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071596

Matrix: WATER

Test: PCBs complete list

Sample Date:

Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Tetrachloro-m-xylene	877-09-8	1.6334	81.700	% Recov	50.000	150.000				09/27/07

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071596

Matrix: WATER

Test: SW-846 8270C Semi-Vols

Sample Date: 09/06/07

Receive Date: 09/06/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
---------	---------	-------	----------	----------	-------	-------------	-------------	--------	-----------	----	---------------

Lab ID: W07GR02361

## BATCH QC ASSOCIATED WITH SAMPLE

MS	1,2,4-Trichlorobenzene	120-82-1	18.657	96.100	% Recov	50.000	120.000				09/17/07
MS	1,4-Dichlorobenzene	106-46-7	18.055	93.000	% Recov	41.000	113.000				09/17/07
MS	2,4-Dinitrotoluene	121-14-2	18.045	92.900	% Recov	65.000	109.000				09/17/07
MS	2-Fluorophenol(Surr)	367-12-4	17.798	91.700	% Recov	50.000	110.000				09/17/07
MS	Acenaphthene	83-32-9	18.619	95.900	% Recov	62.000	112.000				09/17/07
MS	4-Chloro-3-methylphenol	59-50-7	28.909	99.300	% Recov	59.000	115.000				09/17/07
MS	2-Chlorophenol	95-57-8	27.410	94.100	% Recov	69.000	111.000				09/17/07
MS	N-Nitrosodi-n-propylamine	621-64-7	18.286	94.200	% Recov	69.000	115.000				09/17/07
MS	2-Fluorobiphenyl(Surr)	321-60-8	17.381	89.500	% Recov	58.000	109.000				09/17/07
MS	Phenol	108-95-2	22.987	78.900	% Recov	59.000	118.000				09/17/07
MS	Nitrobenzene-d5(Surr)	4165-60-0	18.848	97.100	% Recov	60.000	118.000				09/17/07
MS	4-Nitrophenol	100-02-7	30.837	106.000	% Recov	32.000	130.000				09/17/07
MS	Pentachlorophenol	87-86-5	28.626	98.300	% Recov	51.000	121.000				09/17/07
MS	Phenol-d5(Surr)	4165-62-2	15.618	80.400	% Recov	59.000	116.000				09/17/07
MS	Pyrene	129-00-0	16.742	86.200	% Recov	58.000	116.000				09/17/07
MS	2,4,6-Tribromophenol(Surr)	118-79-6	19.154	98.600	% Recov	60.000	120.000				09/17/07
MS	Terphenyl-d14(Surr)	98904-43-9	14.849	76.500	% Recov	60.000	120.000				09/17/07
MSD	1,2,4-Trichlorobenzene	120-82-1	18.264	94.100	% Recov	50.000	120.000				09/17/07
MSD	1,4-Dichlorobenzene	106-46-7	17.688	91.100	% Recov	41.000	113.000				09/17/07
MSD	2,4-Dinitrotoluene	121-14-2	18.718	96.400	% Recov	65.000	109.000				09/17/07
MSD	2-Fluorophenol(Surr)	367-12-4	12.004	61.800	% Recov	50.000	110.000				09/17/07
MSD	Acenaphthene	83-32-9	18.274	94.100	% Recov	62.000	112.000				09/17/07
MSD	4-Chloro-3-methylphenol	59-50-7	27.953	96.000	% Recov	59.000	115.000				09/17/07
MSD	2-Chlorophenol	95-57-8	19.254	66.100	% Recov	69.000	111.000				09/17/07
MSD	N-Nitrosodi-n-propylamine	621-64-7	18.400	94.800	% Recov	69.000	115.000				09/17/07
MSD	2-Fluorobiphenyl(Surr)	321-60-8	17.029	87.700	% Recov	58.000	109.000				09/17/07

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071596  
 Matrix: WATER  
 Test: SW-846 8270C Semi-Vols

Sample Date: 09/06/07  
 Receive Date: 09/06/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Phenol	108-95-2	24.763	85.000	% Recov	59.000	115.000				09/17/07
MSD	Nitrobenzene-d5(Surr)	4165-60-0	18.780	98.700	% Recov	60.000	118.000				09/17/07
MSD	4-Nitrophenol	100-02-7	28.463	97.700	% Recov	32.000	130.000				09/17/07
MSD	Pentachlorophenol	87-86-5	28.874	99.100	% Recov	51.000	121.000				09/17/07
MSD	Phenol-d5(Surr)	4165-62-2	17.146	88.300	% Recov	59.000	116.000				09/17/07
MSD	Pyrene	129-00-0	17.529	90.300	% Recov	58.000	116.000				09/17/07
MSD	2,4,6-Tribromophenol(Surr)	118-79-6	19.441	100.000	% Recov	60.000	120.000				09/17/07
MSD	Terphenyl-d14(Surr)	98904-43-9	18.994	87.500	% Recov	60.000	120.000				09/17/07
SPK-RPD	1,2,4-Trichlorobenzene	120-82-1	94.100		RPD			2.103	25.000		09/17/07
SPK-RPD	1,4-Dichlorobenzene	106-48-7	91.100		RPD			2.064	25.000		09/17/07
SPK-RPD	2,4-Dinitrotoluene	121-14-2	96.400		RPD			3.698	25.000		09/17/07
SPK-RPD	2-Fluorophenol(Surr)	367-12-4	61.800		RPD			38.958	25.000		09/17/07
SPK-RPD	Acenaphthene	83-32-9	94.100		RPD			1.895	25.000		09/17/07
SPK-RPD	4-Chloro-3-methylphenol	59-50-7	96.000		RPD			3.379	25.000		09/17/07
SPK-RPD	2-Chlorophenol	95-57-8	66.100		RPD			34.956	25.000		09/17/07
SPK-RPD	N-Nitrosodi-n-dipropylamine	621-64-7	94.800		RPD			0.635	25.000		09/17/07
SPK-RPD	2-Fluorobiphenyl(Surr)	321-60-8	87.700		RPD			2.032	25.000		09/17/07
SPK-RPD	Phenol	108-95-2	85.000		RPD			7.444	16.000		09/17/07
SPK-RPD	Nitrobenzene-d5(Surr)	4165-60-0	96.700		RPD			0.413	25.000		09/17/07
SPK-RPD	4-Nitrophenol	100-02-7	97.700		RPD			8.149	25.000		09/17/07
SPK-RPD	Pentachlorophenol	87-86-5	99.100		RPD			0.811	25.000		09/17/07
SPK-RPD	Phenol-d5(Surr)	4165-62-2	88.300		RPD			9.366	25.000		09/17/07
SPK-RPD	Pyrene	129-00-0	90.300		RPD			4.646	25.000		09/17/07
SPK-RPD	2,4,6-Tribromophenol(Surr)	118-79-6	100.000		RPD			1.410	25.000		09/17/07
SPK-RPD	Terphenyl-d14(Surr)	98904-43-9	87.500		RPD			13.415	25.000		09/17/07
SURR	2-Fluorophenol(Surr)	367-12-4	19.413	100.000	% Recov	50.000	110.000				09/17/07
SURR	2-Fluorobiphenyl(Surr)	321-60-8	17.179	88.500	% Recov	58.000	109.000				09/17/07
SURR	Nitrobenzene-d5(Surr)	4165-60-0	19.049	98.100	% Recov	60.000	118.000				09/17/07
SURR	Phenol-d5(Surr)	4165-62-2	18.273	94.100	% Recov	59.000	116.000				09/17/07
SURR	2,4,6-Tribromophenol(Surr)	118-79-6	19.039	98.100	% Recov	60.000	120.000				09/17/07

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071596  
 Matrix: WATER  
 Test: SW-846 8270C Semi-Vols

Sample Date: 09/06/07  
 Receive Date: 09/06/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SURR	Terphenyl-d14(Surr)	98904-43-9	17.322	89.200	% Recov	60.000	120.000				09/17/07
<b>BATCH QC</b>											
BLANK	1,2-Dichlorobenzene	95-50-1	< 1.5	n/a	ug/L				U		09/17/07
BLANK	1,2,4-Trichlorobenzene	120-82-1	< 2.2	n/a	ug/L				U		09/17/07
BLANK	1,3-Dichlorobenzene	541-73-1	< 1.3	n/a	ug/L				U		09/17/07
BLANK	1,4-Dichlorobenzene	106-46-7	< 1.4	n/a	ug/L				U		09/17/07
BLANK	2,4-Dichlorophenol	120-83-2	< 0.50	n/a	ug/L				U		09/17/07
BLANK	2,4-Dinitrotoluene	121-14-2	< 0.50	n/a	ug/L				U		09/17/07
BLANK	2,4,5-Trichlorophenol	95-95-4	< 0.65	n/a	ug/L				U		09/17/07
BLANK	2,4,6-Trichlorophenol	88-06-2	< 0.50	n/a	ug/L				U		09/17/07
BLANK	2,4-Dimethylphenol	105-87-9	< 0.95	n/a	ug/L				U		09/17/07
BLANK	2,6-Dinitrotoluene	606-20-2	< 0.50	n/a	ug/L				U		09/17/07
BLANK	2-Chloronaphthalene	91-58-7	< 3.5	n/a	ug/L				U		09/17/07
BLANK	2-Fluorophenol(Surr)	367-12-4	17.258	86.300	% Recov	50.000	110.000				09/17/07
BLANK	2-Methylnaphthalene	91-57-6	< 3.0	n/a	ug/L				U		09/17/07
BLANK	2-Methylphenol (cresol, o-)	95-48-7	< 0.50	n/a	ug/L				U		09/17/07
BLANK	2-Nitroaniline	88-74-4	< 0.50	n/a	ug/L				U		09/17/07
BLANK	2-Nitrophenol	88-75-5	< 0.50	n/a	ug/L				U		09/17/07
BLANK	3 & 4 Methylphenol Total	65794-96-9	< 0.50	n/a	ug/L	0.000	5.000				09/17/07
BLANK	3-Nitroaniline	99-09-2	< 0.60	n/a	ug/L				U		09/17/07
BLANK	4,6-Dinitro-2-methylphenol	534-52-1	< 1.0	n/a	ug/L				U		09/17/07
BLANK	4-Bromophenylphenyl ether	101-55-3	< 1.0	n/a	ug/L				U		09/17/07
BLANK	4-Chlorophenylphenyl ether	7005-72-3	< 1.7	n/a	ug/L				U		09/17/07
BLANK	Acenaphthene	83-32-9	< 2.6	n/a	ug/L				U		09/17/07
BLANK	Acenaphthylene	208-96-8	< 2.3	n/a	ug/L				U		09/17/07
BLANK	Anthracene	120-12-7	< 0.50	n/a	ug/L				U		09/17/07
BLANK	Bis(2-chloroethyl) ether	111-44-4	< 0.90	n/a	ug/L				U		09/17/07
BLANK	Benzo(a)anthracene	56-55-3	< 0.50	n/a	ug/L				U		09/17/07
BLANK	Benzo(b)fluoranthene	205-99-2	< 0.50	n/a	ug/L				U		09/17/07

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071596

Matrix: WATER

Test: SW-846 8270C Semi-Vols

Sample Date:

Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	Benzo(a)perylene	191-24-2	< 0.50	n/a	ug/L					U	09/17/07
BLANK	Benzo(a)pyrene	50-32-8	< 0.50	n/a	ug/L					U	09/17/07
BLANK	Bis(2-Chloroethoxy)methane	111-91-1	< 0.50	n/a	ug/L					U	09/17/07
BLANK	Bis(2-ethylhexyl) phthalate	117-81-7	< 0.80	n/a	ug/L					U	09/17/07
BLANK	Bis(2-chloro-1-methylethyl)eth	108-60-1	< 1.0	n/a	ug/L	0.000	10.000			U	09/17/07
BLANK	Benzo(k)fluoranthene	207-08-9	< 0.50	n/a	ug/L					U	09/17/07
BLANK	Butylbenzylphthalate	85-68-7	< 0.60	n/a	ug/L					U	09/17/07
BLANK	Carbazole	86-74-8	< 0.50	n/a	ug/L					U	09/17/07
BLANK	4-Chloroaniline	106-47-8	< 0.50	n/a	ug/L					U	09/17/07
BLANK	4-Chloro-3-methylphenol	59-50-7	< 0.50	n/a	ug/L					U	09/17/07
BLANK	2-Chlorophenol	95-57-8	< 0.50	n/a	ug/L					U	09/17/07
BLANK	Chrysene	218-01-9	< 0.50	n/a	ug/L					U	09/17/07
BLANK	3,3'-Dichlorobenzidine	91-94-1	< 0.80	n/a	ug/L					U	09/17/07
BLANK	Dibenz[a,h]anthracene	53-70-3	< 0.50	n/a	ug/L					U	09/17/07
BLANK	Dibenzofuran	132-64-9	< 2.2	n/a	ug/L					U	09/17/07
BLANK	Di-n-butylphthalate	84-74-2	< 2.3	n/a	ug/L					U	09/17/07
BLANK	Diethylphthalate	84-66-2	< 1.9	n/a	ug/L					U	09/17/07
BLANK	Dimethyl phthalate	131-11-3	< 0.50	n/a	ug/L					U	09/17/07
BLANK	2,4-Dinitrophenol	51-28-5	< 2.0	n/a	ug/L					U	09/17/07
BLANK	Di-n-octylphthalate	117-84-0	< 0.50	n/a	ug/L					U	09/17/07
BLANK	N-Nitrosodi-n-dipropylamine	621-64-7	< 0.60	n/a	ug/L					U	09/17/07
BLANK	Dimethoate	60-51-5	< 1.0	n/a	ug/kg						09/17/07
BLANK	2-Fluorobiphenyl(Surr)	321-60-8	15.637	78.200	% Recov	58.000	109.000			U	09/17/07
BLANK	Fluorene	86-73-7	< 1.4	n/a	ug/L					U	09/17/07
BLANK	Fluoranthene	206-44-0	< 0.50	n/a	ug/L					U	09/17/07
BLANK	Hexachlorobenzene	118-74-1	< 0.50	n/a	ug/L					U	09/17/07
BLANK	Hexachlorobutadiene	87-68-3	< 2.0	n/a	ug/L					U	09/17/07
BLANK	Hexachlorocyclopentadiene	77-47-4	< 5.0	n/a	ug/L					U	09/17/07
BLANK	Hexachloroethane	67-72-1	< 1.4	n/a	ug/L					U	09/17/07
BLANK	Indeno(1,2,3-cd)pyrene	193-39-5	< 0.50	n/a	ug/L					U	09/17/07

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071596

Matrix: WATER

Test: SW-846 8270C Semi-Vols

Sample Date:

Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	Isophorone	78-59-1	< 0.50	n/a	ug/L					U	09/17/07
BLANK	Phenol	108-95-2	< 0.50	n/a	ug/L					U	09/17/07
BLANK	Naphthalene	91-20-3	< 2.1	n/a	ug/L					U	09/17/07
BLANK	Nitrobenzene-d5(Surr)	4165-60-0	18.192	91.000	% Recov	60.000	118.000				09/17/07
BLANK	Nitrobenzene	98-95-3	< 0.60	n/a	ug/L					U	09/17/07
BLANK	4-Nitrophenol	100-02-7	< 1.0	n/a	ug/L					U	09/17/07
BLANK	4-Nitroaniline	100-01-6	< 1.0	n/a	ug/L					U	09/17/07
BLANK	N-Nitrosodiphenylamine	86-30-8	< 0.50	n/a	ug/L					U	09/17/07
BLANK	Pentachlorophenol	87-88-5	< 1.5	n/a	ug/L					U	09/17/07
BLANK	Phenanthrene	85-01-8	< 0.55	n/a	ug/L					U	09/17/07
BLANK	Phenol-d5(Surr)	4165-62-2	17.391	87.000	% Recov	59.000	116.000				09/17/07
BLANK	Pyrene	129-00-0	< 0.50	n/a	ug/L					U	09/17/07
BLANK	Tributyl phosphate	126-73-8	< 0.50	n/a	ug/L					U	09/17/07
BLANK	2,4,6-Tribromophenol(Surr)	118-79-6	16.112	80.600	% Recov	60.000	120.000				09/17/07
BLANK	Terphenyl-d14(Surr)	98904-43-9	16.136	80.700	% Recov	60.000	120.000				09/17/07
LCS	1,2,4-Trichlorobenzene	120-82-1	17.551	87.800	% Recov	46.000	107.000				09/17/07
LCS	1,4-Dichlorobenzene	106-46-7	18.571	82.900	% Recov	42.000	111.000				09/17/07
LCS	2,4-Dinitrotoluene	121-14-2	18.216	91.100	% Recov	59.000	106.000				09/17/07
LCS	2-Fluorophenol(Surr)	367-12-4	18.924	94.600	% Recov	50.000	110.000				09/17/07
LCS	Acenaphthene	83-32-9	19.007	95.000	% Recov	61.000	116.000				09/17/07
LCS	4-Chloro-3-methylphenol	59-50-7	27.598	92.000	% Recov	61.000	106.000				09/17/07
LCS	2-Chlorophenol	95-57-8	28.196	94.000	% Recov	66.000	106.000				09/17/07
LCS	N-Nitrosodi-n-dipropylamine	621-64-7	18.536	92.700	% Recov	71.000	114.000				09/17/07
LCS	2-Fluorobiphenyl(Surr)	321-60-8	17.886	89.400	% Recov	58.000	109.000				09/17/07
LCS	Phenol	108-95-2	28.824	95.400	% Recov	67.000	105.000				09/17/07
LCS	Nitrobenzene-d5(Surr)	4165-60-0	18.968	94.800	% Recov	60.000	118.000				09/17/07
LCS	4-Nitrophenol	100-02-7	24.160	80.500	% Recov	32.000	118.000				09/17/07
LCS	Pentachlorophenol	87-88-5	26.051	86.800	% Recov	62.000	114.000				09/17/07
LCS	Phenol-d5(Surr)	4165-62-2	19.492	97.500	% Recov	59.000	116.000				09/17/07
LCS	Pyrene	129-00-0	18.674	93.400	% Recov	66.000	118.000				09/17/07

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071596

Matrix: WATER

Test: SW-846 8270C Semi-Vols

Sample Date:

Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	2,4,6-Tribromophenol(Surr)	118-79-6	18.400	92.000	% Recov	60.000	120.000				09/17/07
LCS	Terphenyl-d14(Surr)	98904-43-9	18.533	92.700	% Recov	60.000	120.000				09/17/07

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071596

Matrix: WATER

Test: NWTPH-D TPH Diesel Range (Wa)

Sample Date: 09/06/07

Receive Date: 09/06/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
---------	---------	-------	----------	----------	-------	-------------	-------------	--------	-----------	----	---------------

**Lab ID: W07GR02361**

## BATCH QC ASSOCIATED WITH SAMPLE

SURR	ortho-Terphenyl	Surr	84-15-1	401.43	84.300	% Recov	70.000	130.000			09/13/07
------	-----------------	------	---------	--------	--------	---------	--------	---------	--	--	----------

**Lab ID: W07P001789**

## BATCH QC ASSOCIATED WITH SAMPLE

MS	ortho-Terphenyl	- Surr	84-15-1	528.40	108.900	% Recov	70.000	130.000			09/14/07
MS	Total Pet. Hydrocarbons	Diesel	TPHDIESEL	2564.7	105.000	% Recov	75.000	125.000			09/14/07
MSD	ortho-Terphenyl	Surr	84-15-1	531.70	108.000	% Recov	70.000	130.000			09/14/07
MSD	Total Pet. Hydrocarbons	Diesel	TPHDIESEL	2535.2	103.000	% Recov	75.000	125.000			09/14/07
SPK-RPD	ortho-Terphenyl	Surr	84-15-1	108.000		RPD			0.000	20.000	09/13/07
SPK-RPD	Total Pet. Hydrocarbons	Diesel	TPHDIESEL	103.000		RPD			1.923	20.000	09/13/07

## BATCH QC

BLANK	Kerosene	TPHKEROSENE	< 120	n/a	ug/L				U	09/13/07	
BLANK	ortho-Terphenyl	Surr	84-15-1	414.04	82.800	% Recov	70.000	130.000			09/13/07
BLANK	Total Pet. Hydrocarbons	Diesel	TPHDIESEL	< 120	n/a	ug/L			U	09/13/07	
LCS	ortho-Terphenyl	Surr	84-15-1	441.27	88.300	% Recov	70.000	130.000			09/13/07
LCS	Total Pet. Hydrocarbons	Diesel	TPHDIESEL	2036.9	81.500	% Recov	80.000	120.000			09/13/07

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071596

Matrix: WATER

Test: NWTPH-GX TPH Gasoline Range

Sample Date: 09/06/07

Receive Date: 09/06/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
---------	---------	-------	----------	----------	-------	-------------	-------------	--------	-----------	----	---------------

**Lab ID: W07GR02361**

## BATCH QC ASSOCIATED WITH SAMPLE

DUP	Total Pet. Hydrocarbons Gas	TPHGASOLINE	<250		RPD			n/a	20.000	U	09/14/07
MS	Total Pet. Hydrocarbons Gas	TPHGASOLINE	2060	82.400	% Recov	75.000	125.000				09/14/07
MSD	Total Pet. Hydrocarbons Gas	TPHGASOLINE	2140	85.600	% Recov	75.000	125.000				09/14/07
SPK-RPD	Total Pet. Hydrocarbons Gas	TPHGASOLINE	85.6		RPD			3.800	20.000		09/14/07

**Lab ID: W07P001778**

## BATCH QC ASSOCIATED WITH SAMPLE

DUP	Total Pet. Hydrocarbons Gas	TPHGASOLINE	<250		RPD			n/a	20.000	U	09/14/07
MS	Total Pet. Hydrocarbons Gas	TPHGASOLINE	1920	76.800	% Recov	75.000	125.000				09/14/07
MSD	Total Pet. Hydrocarbons Gas	TPHGASOLINE	2070	82.800	% Recov	75.000	125.000				09/14/07
SPK-RPD	Total Pet. Hydrocarbons Gas	TPHGASOLINE	82.800		RPD			7.519	20.000		09/14/07

## BATCH QC

BLANK	Total Pet. Hydrocarbons Gas	TPHGASOLINE	<250	n/a	mg/L	0.000	300.000			U	09/14/07
LCS	Total Pet. Hydrocarbons Gas	TPHGASOLINE	2020	80.800	%rec	80.000	120.000				09/14/07

# WSCF

## ANALYTICAL COMMENT REPORT

**Attention:** Steve Trent  
**Project Number** F07-058

**Group #:** WSCF20071596  
**Department:** Organic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		TPH-Diesel: All QC parameters are within control limits.cgc
				SVOA: The 66% recovery of the matrix spike compound, 2-chlorophenol, was 3% below the 69% lower control limit. Hence, it also exceeded the spike rpd limit of 20%. The surrogate, 2-fluorophenol, spike relative percent difference of 39% exceeded the 20% maximum relative-percent difference control limit. The MSD result was within control limits but lower than normal while the MS result was higher than normal. cgc/gar
				Gross alpha duplicate is flagged for poor RPD. Since all the other QC checks came out fine, this batch has been approved. lmh
				W07GR02361/U235 Duplicate is flagged for poor RPD. Since all the other QC checks came out fine, this batch has been approved. lmh
				Am243 (tracer recovery) came out high for the LCS. Since all the other tracer recoveries for the Am241 test came out fine, this batch has been approved. lmh

**Lab Areas:** VALGROUP - Group Validation  
LOGSAMP - Login for Sample

VALTEST - Test Validation  
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

This report may not be reproduced, except in its entirety without the written approval of the WSCF Laboratory.